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ABSTRACT

Among the several conditions which fostered the development of an open-circuit televised nursing course for Registered Nurses at Boston College was the limited availability of baccalaureate level programs in nursing for the Registered Nurse outside the Metropolitan Boston area. It was hoped that a televised course would permit wider access to needed instruction. In addition, Registered Nurses as adult learners have different needs and interests than beginning nurses. The course was intended to meet the needs of these students. It was anticipated that the televised course would also provide uniform course content and present nursing concepts in a situational and realistic context. Students had the option of watching the course on campus monitors or at home and received 3 units of credit for its successful completion. Achievement in a clinical practicum which was required with the course was used as an evaluation of the televised instruction. It was determined that student learning was at least equal to that of the lecture course. The course was also evaluated by Video Nursing, Inc. As a result of the review, Video Nursing requested and received the national distribution rights for the telecourse and syllabus. Because of financial restraints, the open-circuit broadcast will not continue at Boston College. However, the course will continue to be utilized through closed-circuit television. (JG)

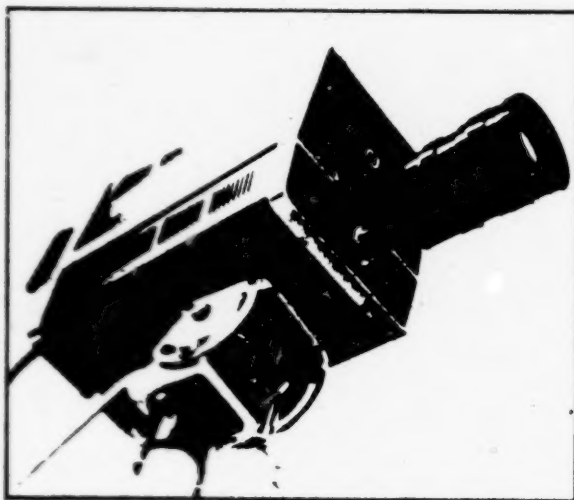
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FINAL PROGRESS REPORT

ED 086190

PROJECT: NURSING TELEVISION
BOSTON COLLEGE SCHOOL OF NURSING
CHESTNUT HILL, MASSACHUSETTS 02167
PAULA L. MINEHAN, R.N., PROJECT DIRECTOR

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FINAL PROGRESS REPORT

Grant Number: D10-NU-00409

Title of the Project: "Adaptation for Open-Circuit Television Broadcast
of a Nursing Course for the Registered Nurse
Student in a Baccalaureate Degree Program"

Name of Grantee Institution: Boston College

Name of Project Director: Paula L. Minehan

Total Number of Years for which the Project was Approved: Three years

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EDUCATION & WELFARE
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EDUCATION

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PREFACE

The investigations suggested by this project work are not completed; they will be the focus of on-going study by faculty after termination of project support. However, I present the findings and impressions to date in the expectation that they can assist others involved with use of instructional technology in nursing education.

It is impossible to express thanks to all persons directly and indirectly responsible for the successful completion of this project. However it is necessary to acknowledge one source of assistance and understanding without which the project would have been impaired. My thanks to Anne C. Peters for her consistent support during three years of our association.

Paula L. Minehan, Project Director

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PROBLEM SITUATIONS WITH WHICH THE PROJECT DEALT

This project dealt with problems related to organization and availability of nursing course(s) for Registered Nurse students desiring baccalaureate level education.

In a problem sense, organization refers to the traditional lecture/seminar method used to present content of "Nursing Process"* to Registered Nurse students. Because of previous educational and work experience, as well as personal characteristics, the Registered Nurse student who has come to the university for baccalaureate education requires a different method of teaching in some of his nursing courses than does the beginning undergraduate nursing student. The pre-project teaching method used to present some nursing content was found to be inadequate to the needs and interests of the Registered Nurse students.

Availability refers to access to baccalaureate level programs in nursing for the post-diploma Registered Nurse. It was found that the small number of programs leading to the baccalaureate for the Registered Nurse (diploma/associate-degree graduate) outside the Metropolitan

* Previously titled The Bases of Professional Nursing. To provide continuity, the current title, "The Nursing Process", will be utilized hereafter.

Boston area -- plus certain characteristics of this adult learner -- made pursuit of higher education opportunities limited when only the traditional mode of access was available.

The situation was localized at Boston College by the structure of a nursing course for Registered Nurse students. The course had been taught by didactic lecture. It maximized neither the abilities which were brought by the students, nor the learning experiences which were being offered to them. Further, the course was presented outside the academic calendar in a period after other classes had been completed -- in the summer, at least two full semesters after the usual matriculation of the Registered Nurse student in the program.

Because it was taught on campus, it was available only to those students whose commitments and life patterns allowed attendance at specified times in a concerted period.

In June, 1972, the Carnegie Commission on Higher Education made several observations regarding use of informational technology (film, television, tape recorder, etc.) in education. The Commission stated that the two major advantages offered to students by informational technology are:

- (a) "it increases the opportunities for independent study, and it provides students with a richer variety of courses and methods of instruction. We will note in a forthcoming report that two complaints of students are the inadequate variety of courses available to them, and the lack of quality in some classroom instruction. The expanding

- technology can speak to both of these complaints", and,
- (b) "it can also help supply answers to the two great aspects of 'humanization' of higher education (1) by making access easier and (2) by paying more attention to the specific needs of individual students"*.

The underlined sections (underlines added) identify instructional technology in education as being equal to the task of solving problems of organization and availability.

Both organization and availability are problems common to Registered Nurse baccalaureate students, and are not restricted to the locale wherein this project was based. Therefore, because these problems have proven tractable to the solution originally proposed, i.e., instructional technology - - this method can be duplicated as a reasonable solution wherever the problems exist.

* The Carnegie Commission on Higher Education. The Fourth Revolution: Instructional Technology in Higher Education. New York: McGraw Hill Book Co., 1972, p. 3-4.

OUTCOMES ANTICIPATED PRIOR TO INITIATION OF THE PROJECT
AND STATUS AT TIME OF REPORT

The aims which would have resulted in the resolution of the stated problems were articulated prior to initiation of the project. They included:

- (1) To provide a base of baccalaureate nursing concepts at the beginning of the Registered Nurse program by offering NU-120 (The Nursing Process) during the academic year.

The concepts basic to the practice of professional nursing are now currently available each semester of the usual academic year instead of during the May-June Intersession, as was the previous case. This has been accomplished by development of a complete telecourse which has been scheduled and presented during the first semester (academic 1971-72) and then during first and second semesters (academic 1972-73). Thus, Registered Nurse students are able to complete this basic course early in their academic careers, and build upon it in their other professional nursing courses.

- (2) To provide for uniformity of nursing content presented to Registered Nurse students.

Use of previously produced video-tape recorded tele-lessons has made it possible to equalize the basic learning experience available to the Registered Nurse student. Previously, each clinical group received theoretical content from its instructor. Now the entire student group, either on campus or in their homes, has the advantage of the same edu-

cational opportunity.

- (3) To present nursing concepts in a situational context through television.

This outcome may be one of the most important qualitative contributions made through the conception and completion of this project. The capturing and recording of in situ nursing interactions has been accomplished through the use of television. Videotaped tele-lessons have added a necessary dimension to nursing education, as students are now able to experience their learning and thereby conceptualize their professional practice upon reality-based communication.

- (4) To provide realistic observation of nursing interactions for large groups of students by capturing and preserving pertinent learning opportunities.

The natural transience of human interactions, and the distortions of them caused by grouped onlookers has been overcome through the media of film and television videotape recordings. Nursing interactions have been preserved by integration of them into tele-lessons. As a base for learning, they are available to a group of any size through the broadcast, magnification and duplication properties of the same media.

- (5) To exercise greater control over course material.

A greater selectivity as well as controlled use of "learning time" has been accomplished by meeting this anticipated outcome through a televised nursing course. In addition to selecting those learning experiences (from the many which were filmed) which would best contribute

to the student's meeting the objectives of the course -- the discipline of preparing permanently available teaching tools resulted in the most efficient presentation of each class lesson. In that way, the course material and teacher time investment was under the control of the teacher. This resulted in a superior learning situation.

(6) To extend the influence of the nursing faculty.

One of the original problems which stimulated this effort was that related to the limited access to higher education under which the Registered Nurse student must labor. To surmount the barriers which the traditional academic experience has presented, a method of increasing the opportunity to learn was sought. The methodology which was proposed -- open-circuit television broadcast of a baccalaureate level nursing course -- allowed nursing faculty to communicate their expertise beyond the classroom -- throughout the state and into the learner's home. In this way, the influence of the nursing school faculty was greatly enlarged.

A cooperative arrangement was made with an institution (University of Massachusetts) in the western sector of the state. In this School of Nursing, Registered Nurse students matriculating to the baccalaureate degree also utilized the telecourse under the direction of that school's faculty. Students in that area were able to view the course on open-circuit television and upon meeting course objectives, received credit for it from the cooperating institution. The influence of the grantee institution's faculty thus was further extended through the television medium and benefited both students and faculty in the cooperating insti-

tution. This arrangement has continued during the project period.

* * *

The realization of these six aims was accomplished through the modality of an open-circuit televised nursing course, The Nursing Process. The successful completion of it resulted in the awarding of three baccalaureate credits to the enrolled Registered Nurse student. The course was broadcast on educational television. Students had the option of viewing the lessons in their homes, or on monitors provided on-campus.

The course had as its description and objectives the following:

(A) Catalogue Description:

"The Registered Nurse student is provided an opportunity to broaden her concept of professional nursing through study of the elements of professional practice including a systematic assessment of patients' needs, identification of appropriate nursing actions, development of a plan of care based on definite goals, implementation of that plan of care and evaluation of the effectiveness of the care".

(B) Objectives:

"Upon completion of the course, the student:

- (a) Can identify and state the components of the nursing process.
- (b) Understands that a theoretical nursing process operates as a base for the practitioner's delivery of health services.
- (c) Can utilize an assessment tool in the process of identifying, diagnosing, solving and evaluating nursing problems.
- (d) Can initiate, implement, and evaluate a nursing care plan which is based on information gathered via an assessment tool.
- (e) Views the process of nursing as a vehicle for increasing

her capacities for recognition of health problems and as a personal approach to her enhancement as a professional person.

- (f) Understands that the positive outcomes of the nursing process will vary according to the physical, emotional, and social components of the unique stress situation encountered.

The telecourse was comprised of ten lessons with the following titles and descriptions:

Lesson I - INTRODUCTION: This lesson demonstrates that a nursing process exists. The process is demonstrated in action. The lesson indicates the need to understand the process in the light of change in the situations in which today's patient and today's nurse exist and cope with stress. The terminology of the process will be introduced. The fact that an individual nurse has inherent strengths which can be further developed will be stressed.

Lesson II - COMPONENTS OF PROCESS: Elaboration of one nursing process which was demonstrated in Lesson I. Strong emphasis is placed on vocabulary and the parts of the process are examined in depth. Assessing, planning, implementing, and evaluating nursing care will be analyzed for meaning and derivation. Appeal will be made to deepen the sense of the essence of professionalism through the use of the nursing process.

Lesson III - PERSON TO PERSON NURSING: This lesson demonstrates that the positive outcomes of the nursing process will vary according to the physical, emotional and social components of the unique stress situation encountered by the nurse and the patient.

Lesson IV - THE ASSESSMENT INTERVIEW: A lesson to illustrate in detail the beginning of the nursing process, the Assessment Interview. Interviews filmed in several clinical settings are used to compare and contrast interviewing techniques. Information pertinent to nursing which should be covered in assessment interviews is presented.

Lesson V - TOTAL ASSESSMENT: This lesson presents all components involved in total assessment. Interview, examination and observation skills, as well as secondary resources of information used to arrive at total assessment are presented.

Lesson VI - PLANNING NURSING CARE: An examination of that conscious, deliberate process of establishing a patient's nursing problems by limiting and defining those which will respond to nursing intervention. It further demonstrates how to plan care based

upon translation of a patient's objectives into nursing action. The recording of data obtained from all sources will be discussed and illustrated.

Lesson VII - IMPLEMENTING NURSING CARE - PART I: This lesson illustrates the selected nursing activities in a community health situation. The nursing actions are based on patient centered objectives. The nurse's role in preventing illness, making referrals, communicating a nursing care plan and participating in an evaluation conference will be discussed.

Lesson VIII - IMPLEMENTING NURSING CARE - PART II: This lesson illustrates additional nursing activities which comprise nursing care. Administration of physical care, emotional support and teaching developed through the use of a nursing process, will be demonstrated through presentation of a nurse caring for a patient before and after cardiac surgery.

Lesson IX - EVALUATING NURSING CARE: The ongoing process of evaluation is discussed. Methods are introduced for evaluating care. Evaluation is presented from the point of reference of stated objectives which are formulated as expected patient behavior and, therefore, are measurable. The serious implications that evaluation has for nursing are considered.

Lesson X - A CRITIQUE: A panel interchange of experiences with utilization of nursing process as experienced by the Registered Nurse practitioner with response and suggestions from nurse experts is the focus of this lesson.

A Study Syllabus complemented the telecourse to provide practice and faculty assistance through the use of assignments which interrelated with the lessons. These were the instruments through which the anticipated outcomes were achieved.

CHANGES IN INITIALLY APPROVED PLAN AND REASONS FOR THEM

I. During the first year of project implementation, nurse faculty noted that arrangements of the project time plan were not as appropriate as they had appeared when the schedule was proposed.

To be specific, the original project plan indicated that as the outline of each tele-lesson was completed by the project faculty, it would be produced by the television facility. This plan had inherent weaknesses in that it denied use of the flexibility of television programming. It limited the opportunity to develop the course in a sequential presentation, and also reduced the possibility of rearranging concepts as appropriate to course continuity. This restricting arrangement jeopardized the anticipated objective:

"To present nursing material in a situational
context through television"

by imposing upon the project a requirement that individual lesson content be treated as discrete material rather than part of an ongoing continuous process.

In order to overcome this weakness, course production (with the exception of a pilot lesson) was postponed until all lesson content was completed and all clinical filming situations were identified. This change in time plan scheduled production at the beginning of the second year of the project (rather than spaced during the first year). No other aspect of the time plan was affected by this change. All other project activities were completed as scheduled after this time plan change (the approval of which was requested from and given by the Nurse Education and

Training Branch).

The implications of this issue should not be underestimated. Utilization of television as a teaching modality in an interactive profession such as nursing requires that all materials and production plans be isolated before beginning actual production. Otherwise, because continuity is forfeited, a presentation which is highly restrictive both to the teacher and to the learner will be the product. This observation applies to the separate development of a "pilot" lesson as well, if it is anticipated that the pilot will be used as part of the final telecourse.

II. Other changes in the initially approved plan have been the addition of activities to the project work. Some were related to "optimal utilization of the telecourse" and were developed to answer the issues raised in Section D-III of this report.

The changes included providing concurrent clinical evaluation experience as well as a separate pattern of clinical evaluation experience (i.e., concurrent clinical evaluation experience occurred during the period of the telecourse enrollment; separate clinical evaluation experience was scheduled after completion of the telecourse). These diverse scheduling patterns were utilized to determine the best arrangement to insure optimal retention of learnings by the student.

During the 02 project year an intensive clinical practicum was offered during Intersession (June 1972), supported in part by the University. This allowed a larger number of students to enroll in the practicum than was possible during the academic year due to scheduling problems. This Intersession practicum was not scheduled during the 03 project year,

as the scheduling difficulties were eliminated.

A request for support for a related undertaking - - "Development of Coordinated Clinical Nursing Practicums for Registered Nurse Baccalaureate Degree Students who have Enrolled in an Open-Circuit Credit Televised Nursing Course" was submitted to a private foundation. The intent was to provide opportunity for clinical practice for Community Registered Nurse students enrolled in the telecourse in appropriate agencies throughout the Commonwealth. This was not funded. As far as practicable, Community Registered Nurse students were enrolled in the evaluation practicums if they so requested.

For the regularly matriculated full-time on-campus student, a pre- and post-broadcast discussion was offered during the 03 project year in an attempt to provide contact with a faculty member which this group (as contrasted to the at-home student) seemed to desire (See Section D-II, III).

Broadcasts of the course, additional to those specified in the time plan, have been supported by the University (in Summer Session and the Evening College) to further enlarge opportunity for study for the Registered Nurse group.

OUTCOMES OF THE PROJECT AND HOW DETERMINED

Evaluation of the project was directed toward review of two concerns:

- (1) the effectiveness of the content presentation of a televised nursing course in comparison to the previous teaching methodology, and,
- (2) the utility of a baccalaureate level open-circuit televised nursing course as a tool for assisting the Registered Nurse adult learner.

In addition to these concerns, there is included:

- (3) issues related to project outcomes.

I. The Effectiveness of the Content Presentation of a Televised Nursing Course in Comparison to the Previous Teaching Methodology.

Internal Evaluation

At termination of this project, four student groups have completed the Nursing Process telecourse and its associated clinical practicum. For purposes of this project the clinical practicum has been utilized as a comparative evaluatory device (in addition to being a course requirement for Registered Nurse students matriculating to the baccalaureate degree). An in-depth statistical analysis of the comparative evaluations was not within the scope of this effort. However, within certain qualifications which are outlined, utilizing a faculty developed evaluation tool related to course objectives, it was determined that the student learning was at least equal to that learning experienced during the lecture course.

Qualifications

Between 1968 and 1973 (date the project was proposed and date the project was completed) the content of the course has benefited by the passage of time and developments in nursing research and practice. For that reason, theoretical materials basic to the course, as well as expectations surrounding its practice implementation have been improved. This will be reflected in change in course objectives as well as in base-line practice expectations of faculty.

Comparison of Objectives

As the objectives for the practicum have provided the base for evaluation of clinical practice (and as the objectives are directly related to learnings supported by theory presentation, initially by lecture; currently by telecourse), a presentation of the progressive development of the objectives is of assistance in determining the comparability of student achievement as expressed in final grades. It must be understood that this in no way allows estimation of variability which may be due to:

- (1) individual faculty differences;
- (2) influence of differences in yearly course time scheduling;
- (3) clinical practicum area differences;
- (4) difference in student nursing experiences/backgrounds;
- (5) differences in Diploma/Associate Degree curricula.

Objectives of Practicum

1969/1970; 1970/1971

Theory Presentation Method: Lecture

- (1) Identifies and discusses concepts, principles and facts relevant to the nursing process based upon assigned readings.
- (2) Validates thinking by reference to primary source materials.
- (3) Articulates own standards for and prejudices regarding current professional nursing practice.
- (4) Employs interviewing as a means to gather information from the patient relative to his nursing needs.
- (5) Observes and examines the patient as a concomitant means of acquiring data.
- (6) Analyzes available data (primary and secondary) and subsequently formulates a nursing diagnosis. (nursing diagnoses)
- (7) Distinguishes between components of nursing care identified by nursing and by medicine.
- (8) Plans nursing intervention reflecting nursing diagnosis and patient preference.
- (9) Writes orders which are operational.
- (10) Identifies and uses her concept of self as an effective tool in nursing interventions.
- (11) Engages in those professional nursing activities which insure the implementation of the nursing care plan.
- (12) Evaluates and modifies nursing care based upon analysis of the effects of nursing intervention.
- (13) Organizes theories to center nursing services around the nursing process and attempts to implement these in practice.
- (14) Defines own learning objectives and operates on a plan to achieve defined objectives.

Objectives of Practicum

1971/1972; 1972/1973

Theory Presentation Method: Telecourse

- (1) Employs interviewing as a means to gather information from the patient relative to his nursing needs.
- (2) Observes and examines the patient as a concomitant means of acquiring data.
- (3) Analyzes available data (primary and secondary) to identify and state the patient's problems.
- (4) Identifies nursing actions which are independent of medical orders.
- (5) Plans nursing intervention reflecting the patient's individual problems and appropriate behavioral objectives.
- (6) Realizes that her attitudes, feelings and past experiences affect the way she interacts with people.
- (7) Engages in those nursing activities which insure the implementation of the nursing care plan.
- (8) Evaluates and modifies nursing care based upon on-going analysis of the effects of nursing intervention.
- (9) Defines own learning objectives and operates on a plan to achieve defined objectives.
- (10) Can construct (verbally or in writing) a plan to organize health services around the nursing process:
 - (a) in the clinical practice area where she is doing the practicum;
 - (b) for a specific group of practitioners (e.g., intra or inter disciplinary health team, nursing staff on a particular patient care unit.

Review of practicum objectives indicates a commonality of behavioral measures upon which students pre- and post-theory telecourse were evaluated.

Outcomes

A summary of achievement levels expressed by earned final grades in the evaluation practicum follows:

CHART I

Year	Theory Teaching Method	Practicum Course Grades		
		Pass	Fail	Withdraw
1969-1970 (N=54)	Lecture	100%	0%	0%
1970-1971 (N=37)	Lecture	86%	14%	0%
1971-1972 (N=54)	Telecourse	98%	2%	0%
1972-1973 (N=89)	Telecourse	97%	1%	2%

Summary of Practicum Achievement Following Lecture Theory and Telecourse Theory

The table indicates that students who enrolled in the practicum after telecourse theory presentation achieved scores comparable to those students enrolling in the practicum after lecture theory presentation.

Additionally, one faculty member has been involved in teaching the course under both treatments. The following statements have been made by her and are included to add further dimension:

"The students in 1972 knew more about total (nursing) process and did more with it as they cared for patients" - and - "On the whole it seems that students in 1972 - - had less of a

hostile attitude to the Practicum. This is in marked contrast to previous years".

External Evaluation

Video Nursing, Inc.

To provide expert evaluation of content validity, Video Nursing, Inc., Evanston, Illinois, was requested to act as a content/production reviewer of the telecourse. This request was granted. Video Nursing, Inc. submitted the telecourse to a review by faculty committees in baccalaureate schools of nursing in Illinois. The review included content presentation, situation selection, accuracy and timeliness, production, relationship established with viewer, and Study Syllabus.

As a result of this review, Video Nursing, Inc. requested the rights for distribution of the telecourse and Study Syllabus on a national basis. As this request represented a furtherance of the aim "to extend the influence of the nursing faculty" on a larger basis than was practicable for this institution - - an agreement was concluded. Further information relating to this will be presented in Section D-II of this Report.

University of Massachusetts

As indicated previously, the University of Massachusetts School of Nursing, Amherst, has utilized, as part of its baccalaureate curriculum pattern for Registered Nurse students, the telecourse as broadcast by Boston College. Their review of content presentation, while not specifically comparative to a previous teaching methodol-

ogy and student learning, was positive. As a result they have continued to utilize the course for their students during the entire project period, and plan to do so after project termination.

II. The Utility of a Baccalaureate Level Open-Circuit Televised Nursing Course as a Tool for Assisting the Registered Nurse Adult Learner.

Interest and Enrollment

Registered Nurse interest in open-circuit television as a vehicle for educational opportunity was estimated in Year 01 of project work. From a general mailing list of 7,000 persons* obtained from the Massachusetts Nurses Association, 960 respondents indicated interest in a televised baccalaureate level nursing course. Additionally, 400 persons not on this mailing list requested information from the project office.

In July, 1971 (Year 02), application forms were forwarded to all persons who had responded positively to previous canvassing. Because it was anticipated that some persons who initially had indicated interest in an open-circuit televised nursing course would be unable to enroll formally, a notification of broadcast times was mailed to each person on mailing lists. Those persons who contacted the project and so requested were furnished with lesson summaries.

The first enrollment (1971-72 / 02 Project Year) was as follows:

* which was not sorted by educational level.

CHART II

	Full-Time Students	Community Registered Nurse Students**	
		Academic Year	Summer Session
Boston College	54	57	19
University of Massachusetts	26	--	--

Enrollment Figures 1971 - 1972

The 03 Project Year enrollment (1972-73) was as follows:

CHART III

	Full-Time Students	Community Registered Nurse Students	
		Academic Year	Summer Session
Boston College	63	38	N/A
University of Massachusetts	23	--	--

Enrollment Figures 1972 - 1973Student Reaction

A non-obligatory post-course questionnaire for enrolled students utilized by both participating institutions following the 1971-1972 broadcasts had the following results:

** Definition: Registered Nurses not matriculated in full-time study who enrolled in the telecourse on a part-time basis at the grantee institution.

CHART IV

Percent Response: 60.83	Yes	No	No Response/ Undecided
[1] Would you enroll again for credit in an open-circuit television course?	50 (68.49%)	22 (30.14%)	1
[2] Would you watch nursing courses on open-circuit television without enrolling for credit?	18 (78.26%)	4 (17.39%)	0

Student Response to Questionnaire
1971 - 1972

Opportunity to make specific comments was made available. Positive commentary cited the convenience of the method and the opportunity to watch each lesson more than once. Other positive commentary related to the assignments and bibliographical materials in the Study Syllabus.

The most frequent negative reaction related to the lack of teacher-student interaction. Other comments related to inconvenience of broadcast times and lessons which moved too quickly for complete note-taking.

During the second broadcast year (1972-73), a comparable non-obligatory questionnaire was circulated to students enrolled for credit in both participating institutions. The following results were noted:

CHART V

Percent Response: 65.00	Yes	No	No Response/ Undecided
[1] Are you interested in enrolling for university credit in an open-circuit television program again?	46 (56%)	34 (41.5%)	2
[2] If you answer NO to question #1, would you watch nursing courses on open-circuit television without enrolling for credit?	25 (69%)	11 (30.6%)	

Student Response to Questionnaire
1972 - 1973

Comments elicited during this questionnaire period included positive reaction to faculty available during telecast (See Section C-II). The full-time student also commented on the positive experience offered by concurrent theory and practice; the part-time student did not mention lack of this experience as a drawback. (In many instances members of this group were employed, and may have had an incidental opportunity for practice implementation of learnings). Again cited were convenience of the method and ability of the medium to communicate the nursing content.

The questionnaires also collected some student opinion that the lessons moved too quickly and that they contained too much material.

* * *

Initially, it was expected that comparison of intention to matriculate to the baccalaureate degree prior to and post-telecourse

enrollment would be a measure of effect of this methodology. However, several issues mitigate against this comparison:

- (1) Original announcement mailing lists: Because these were not available by educational level, many persons with a variety of educational achievement(s) responded. This included B.S. (Nursing), B.S. (other discipline), M.S. (Nursing), M.S. (other discipline), and post-master's. It was not possible to select out those pre-baccalaureate potential students and use them and their pre-course and post-course educational aspirations as a basis for comparison.

- (2) Possibility of population bias.

All questionnaires to course enrollees included this question:

"Do you intend to continue your education to the baccalaureate degree?"

The following chart indicates the responses:

CHART VI

	Yes	No	No Response/ Undecided
1971-72 Enrollees Percent Response: 60.83	63 (86.3%)	10 (13.7%)	- -
1972-73 Enrollees Percent Response: 65.00	78 (95.1%)	3 (3.6%)	1

Expressed Student Intent to Complete Baccalaureate Education
1971 - 1973

The high percentage of yes responses should be viewed with some skepticism. It may be a function of population bias - - i.e., the participant in the telecourse may already be committed to baccalaureate education. That does not infer that the methodology was not assistive, it merely questions whether it can be construed as instrumental in terms of these particular educational decisions.

In 1971-72, in an attempt to evaluate the interest of the potential audience of non-enrolled viewers, a questionnaire was circulated to 1,750 persons who had been notified of broadcast times. Two-hundred and sixty-nine (16%) were returned. Interest was expressed by both those who watched and those who did not watch in enrollment for credit in university level nursing and non-nursing courses on open-circuit television. A small number also indicated interest in master's level offerings. However, because of the large number of No Response to each question (at least 53% for all questions; as high as 86% on some) no statistical interpretation can be attempted. However, this response suggested the issue raised by faculty in Section D-III: "What advantage, if any, is there to broadcasting the telecourse, The Nursing Process, as a public service for non-enrolled Registered Nurses?".

Other Response

Supportive to the concept of a mediated tool to assist the Registered Nurse learner enroll in baccalaureate level education is communication regarding this concept with others interested and/or in a position to utilize it. Accordingly, since course production

and broadcast in Fall, 1971, persons in the following organizations have requested and received detailed information regarding the tele-course and the methodology developed to support it:

American Institutes for Research
Pittsburgh, Pennsylvania

Boston University School of Nursing
Boston, Massachusetts

Brigham Young University College of Nursing
Provo, Utah

Catholic University of America School of Nursing
Washington, D.C.

Holyoke Community College
Department of Nurse Education
Holyoke, Massachusetts

Laboure Junior College School of Nursing
Dorchester, Massachusetts

Metropolitan Educational Television Association
Toronto, Ontario, Canada

University of the Air - Michigan State University
East Lansing, Michigan

Regional Medical Program
Providence, Rhode Island

Riverside Methodist School of Nursing
Columbus, Ohio

State University of New York at Stony Brook
Stony Brook Health Sciences Center
Stony Brook, New York

University of California School of Nursing
San Francisco, California

University of Connecticut School of Nursing
Department of Continuing Education
Storrs, Connecticut

University of Maine at Portland-Gorham
Bureau of Continuing Education
Portland, Maine

University of Manitoba School of Nursing
Winnipeg, Manitoba, Canada

University of New Hampshire Department of Nursing
Durham, New Hampshire

University of Tennessee College of Nursing
Memphis, Tennessee

University of Vermont School of Nursing
Burlington, Vermont

University of the State of New York
State Board for Nursing
Albany, New York

West Virginia School of Nursing
Morgantown, West Virginia

Yale University School of Nursing
New Haven, Connecticut

* * *

Following the Video Nursing, Inc. review of content presentation (Section D-I-B) a request was made by that organization congruent with the aim "To extend the influence of the nursing faculty". A distribution arrangement for the telecourse was proposed. Individual requests for this service had been received by the grantee institution during the previous year. Because facilities to offer a distribution service were not available, these requests were denied. However, utilizing the already available competencies of Video Nursing, Inc., it would be possible to make the telecourse available to Registered Nurse students (and their faculties) nationally, rather than on the limited scale previously possible.

Accordingly, a distribution agreement was arranged with Video Nursing, Inc.

The following health educational organizations have expressed interest (to Video Nursing, Inc.) in the short period the telecourse has been available for nationwide distribution:

California State University
Los Angeles, California

Clemson University
Clemson, South Carolina

Connecticut Hospital Association
New Haven, Connecticut

Central Maine General Hospital
Lewiston, Maine

Cook County School of Nursing
Chicago, Illinois

Cornell University
New York, New York

Chemeketa Community College
Salem, Oregon

Cone, Moses Memorial Hospital
Greensboro, North Carolina

Helene Flud Hospital
Trenton, New Jersey

W. A. Foote Hospital
Jackson, Michigan

Geisinger Medical Center
Danville, Pennsylvania

Highline Community College
Midway, Washington

Hospital of St. Raphael
New Haven, Connecticut

Medical College of South Carolina
Charleston, South Carolina

New York State Education Department
Albany, New York

Pottsville Hospital School of Nursing
Pottsville, Pennsylvania

Presbyterian - St. Luke's Hospital
Chicago, Illinois

Russell Sage College
Troy, New York

St. Anne's Hospital
Columbus, Ohio

Southwestern College
Chula Vista, California

St. Cloud Hospital
St. Cloud, Minnesota

Southeastern Louisiana University
Hammond, Louisiana

United Hospital
Port Chester, New York

University of Wyoming
Laramie, Wyoming

Umholtz, Ms. Alma
Valley View, Pennsylvania

University of Tennessee
Memphis, Tennessee

V. A. Hospital
Los Angeles, California

Waterbury Hospital
Waterbury, Connecticut

Beginning July 1, 1973, as a result of their merger, the offerings collected by Video Nursing, Inc. will be distributed by the American Journal of Nursing Company.

III. Issues Related to Project Outcomes

After establishing that the telecourse supported student learning to at least the same degree achieved with the previous lecture method, it became of interest to the project faculty to determine the optimal method of student-teacher utilization of the telecourse.

The issues which were raised in this determination are varied, but come from the following observations which faculty have made independent of those suggested in the project proposal:

- (1) It appeared that the younger full-time Registered Nurse student whose circumstances allowed on-campus matriculation was less adaptable to this teaching methodology than the Community Registered Nurse (part-time) student. Many reasons could explain this - - For example, expectation of traditional university lecture pattern, discomfort with an independent learning situation, etc., as well as characteristics of the Community Registered Nurse student which supported her acceptance of the method.
- (2) It appeared that non-provision of concurrent clinical practice resulted in less learning for the enrolled student. The opportunity to practice and reinforce learnings appears to support student achievement in the theory course.
- (3) Because the use of the Study Syllabus with faculty assistance and support is only available to the enrolled student, and because this interaction was structured to be

a necessary component of the telecourse, it was conjectured that viewers who watched without enrolling may have experienced confusion and discouragement with tele-learning in nursing. (If this is true, careful evaluation of "public service broadcasting" should be made.)

Among the questions which thus presented themselves during the course broadcasts were:

- (1) What advantage, if any, is there to having a faculty member available for on-campus, non-required, pre- and post-broadcast informational sessions?
- (2) What advantage, if any, is there to schedule Nursing Process theory and practicum separately?
- (3) What advantage, if any, is there to schedule Nursing Process theory and practicum concurrently?
- (4) What advantage, if any, is there to broadcasting the telecourse, The Nursing Process, as a public service for non-enrolled Registered Nurses?

Alterations and accommodations relating to these questions were made in an attempt to alleviate problems and provide the best learning experience for involved students (See Section C-II). Evaluation of the effects of treatments by analysis of variance is beyond the scope of the project and the available resources; - - however, it is hoped that investigation relating to these questions can be completed in the future.

It is the belief of the persons responsible for implementation

of this project that:

- (1) provision for on-campus students to communicate with a faculty member in a class setting prior to and post telelesson broadcast of The Nursing Process reduces frustration for this student group;
- (2) separately scheduled Nursing Process theory and practice experience reduces student (theory) learning;
- (3) concurrently scheduled Nursing Process theory and practice experiences supports student (theory) learning;
- (4) provision for some contact with faculty is necessary for those Registered Nurses who view the telecourse, The Nursing Process, independently, without enrolling for credit.

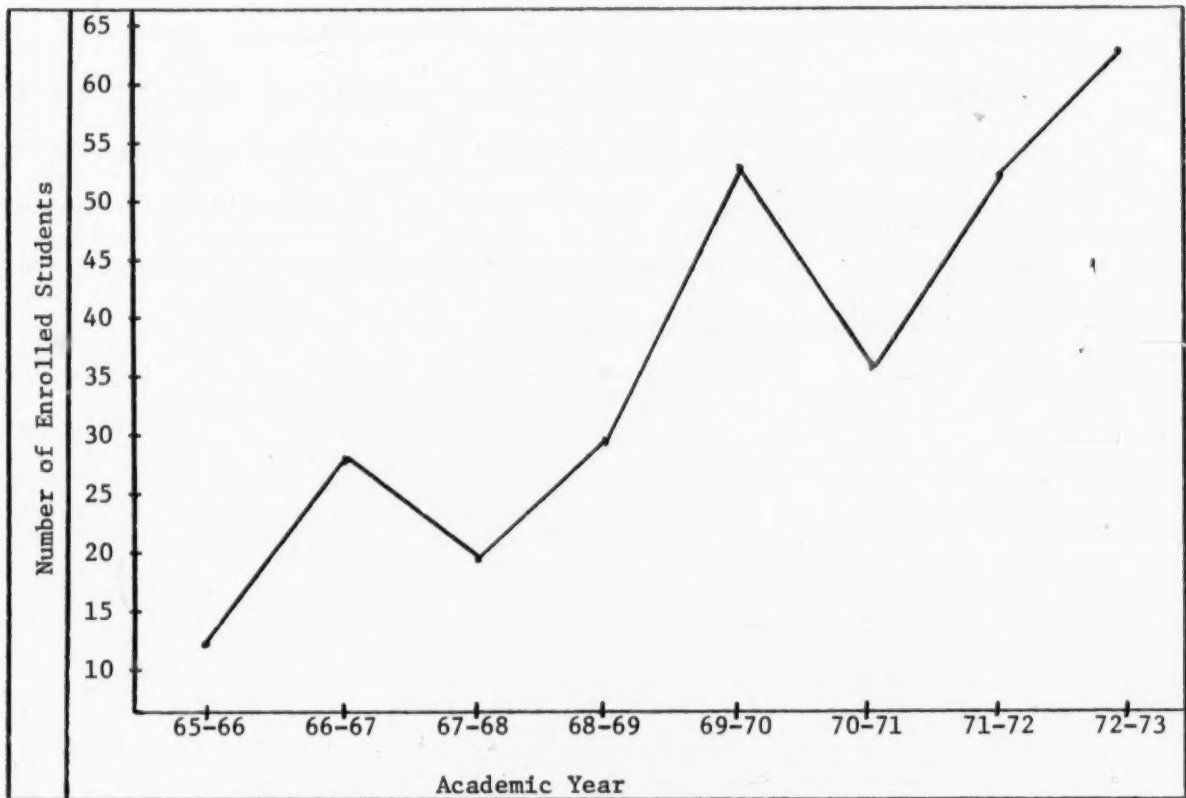
FACTORS THAT INFLUENCED THESE OUTCOMES

I. At the period of the change in project time plan (see Section C), a simultaneous occurrence was the upward revision in production budget caused by the inflationary trend marking the 1970's. Because of disparity between estimation of television production costs for project submission (1968) and actual undertaking of these activities (1971), monies in the amount of \$37,688.00 were not available from the project to contract with the WGBH Educational Foundation to complete this phase of project work. Boston College authorized the contract, underwriting the \$37,688.00 deficit. Without University financial support, the outcomes of the project would not have been achieved.

II. Because it was not possible (except at a greater expense than the project was authorized to assume) to obtain the listing of the Massachusetts Board of Registration in Nursing; and because correspondence with the Research and Statistics Department of the American Nurses Association established that its computerized inventory of Registered Nurses (Massachusetts listing) compiled in 1966 was both outdated and unavailable, it was necessary to utilize the membership of the Massachusetts Nurses Association to contact Massachusetts Registered Nurses. While we are most appreciative of the help extended by this professional group, its 7,000 person membership in no way approximates the number of professional nurses registered in Massachusetts (Current figure: 72,000) and listed by the Board of Registration in Nursing. This factor was a limitation to project work.

A related issue that influenced enrollment of Community Registered Nurse students was the unexpected increase in full-time Registered Nurse enrollment. The figures for enrollment in the telecourse (and in its lecture predecessor) from 1965 to 1973 shows the sharp increase:

CHART VII



Full-Time Registered Nurse Enrollment in Theory Course
Between 1965 - 1972

Because project faculty member numbers as well as support services had been fixed at the 1968-69 enrollment level (when the project was proposed), the available faculty were assigned responsibility with full-time students to ensure project evaluation through the clinical practicum. Therefore,

during the 03 project year when no intersession practicum was available, the policy of "low key" course publicity to part-time students was instituted. In effect, this factor limited year 03 achievement aims related to Community Registered Nurse enrollees. However, this was necessary in order to ensure project evaluation.

III. The commitment of those persons associated with this effort during three intensively productive years is the least measurable but most important factor related to achievement of the project aims. The energy which colleagues generate when involved in a new and challenging venture is perhaps a common experience - - but one which cannot always be relied upon to occur. It did during this period, and was the echafaudage upon which successful outcomes were built.

DESCRIPTIVE SUMMARY OF EFFECTS OF PROJECT

The several effects of this project upon the nursing program have been discussed in detail in prior sections of this report. In summary, the following statement outlines the results:

In order to improve learning opportunities for the Registered Nurse student, a college level nursing course has been adapted for television presentation. The effort is a pilot demonstration project to make some components of baccalaureate education more accessible to this student group by broadcast of the adapted course. In addition, the educational experience has been improved through systematic content development, better scheduling and presentation. The course has been produced and broadcast on the open-circuit facilities of the WGBH Educational Foundation, and is currently being distributed nationally by a nursing educational distributor.

During the project period a strategy for adapting nursing courses to mediated production and open-circuit television broadcast was generated. This methodology, detailed elsewhere*, can be utilized by other nurse professionals to improve educational presentation.

Another important effect has been exerted upon the educational content. This content, The Nursing Process, a scientific approach to professional nursing interaction, has been affected by the careful research and development which went into its presentation as a complete and independent telecourse. All available content information was examined and synthesized by an expert faculty team whose members then

* Minehan, Paula L. "Adaptation to Open-Circuit Television: A Method for Nursing Education", Nursing Forum, 11(Number 3, 1972), p. 230.

identified models of this content in actuality. Thus, the concept of Nursing Process has been advanced by intensive scrutiny and by application during course presentation.

Beginning evaluation of optimal uses of instructional technology in Registered Nurse education has occurred.

PLANS FOR CONTINUING ACTIVITIES RELATED TO THE PROJECT

Because of financial restraints, the School of Nursing at Boston College will not continue open-circuit broadcast of the telecourse after termination of project support. Two factors have determined this decision:

- (1) the cost of open-circuit broadcast, and
- (2) the cost of supporting the necessary faculty attendant upon enrollment of part-time Community Registered Nurse students.

At this point it is not possible to budget monies for open-circuit broadcast, additional new faculty, and the secretarial support which this broadcast would require. It is hoped that in the future it will be possible to plan to support these efforts. The School of Nursing is committed to the concept of enlarged access to higher education for the Registered Nurse student and is convinced that this methodology is a most appropriate route.

The School of Nursing will continue to utilize the course, The Nursing Process, through closed-circuit television and also use of kinescope recordings which are currently available for this purpose. The recorded content will be presented in the same manner as has been in the past with the associated clinical practice.

In planning for the future and building upon the experience and interest engendered by this project, it is the intention of the School of Nursing to evaluate those courses which would best be presented through instructional technology and to make these available to Community

Registered Nurses through open-circuit television broadcast. It is conceivable that courses could be adapted wherein students could enroll for credit or as part of a planned continuing education effort.

ENROLLMENT IN THE NURSING PROGRAM

- (a) At the start of the project period: Academic Year 1970 = 590
- (b) At the end of the project period: Academic Year 1973 = 743